



**RUSH UNIVERSITY
MEDICAL CENTER**

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- 6.7 million persons living with dementia (PLWD) in the United States
- Professional caregivers include anybody in the paid workforce involved in dementia-related diagnosis, treatment, or care
- Majority of professional care for PLWD provided by direct care workers (DCW) (e.g., nursing assistants, home health aides)
- Behavioral and psychological symptoms of dementia (BPSD) include wandering, agitation, repetitive activities, and other behaviors less common in persons without a dementia diagnosis
- BPSD occur from dementia-related neurobiological changes, unmet needs, and environmental factors
- Challenges managing BPSD contribute to burnout in professional caregivers and decreased care quality
- An estimated need for 800K new DCW by 2032
- Empathy may improve caregiver-care recipient relationships, reduce caregiving burden, and support caregiver well-being
- Simulation interventions have identified increased empathy in students and professional caregivers, though simulation research focused on DCW is scarce

- To evaluate the empathic effects of a dementia simulation program, the Virtual Dementia Tour® (VDT®), on professional caregivers (nurses and DCW)

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graph TD; A[Concrete Experience  
(Pre-intervention: The VDT®)] --> B[Participant thinks about  
their experience]; B --> C[Reflective Observation  
(Expresses thoughts and feelings on  
simulation)]; C --> D[Participants share experience in VDT®  
Certified Trainer-led group. Certified  
Trainer shares dementia education and  
helps participants relate knowledge back to  
the simulation]; D --> E[Abstract Conceptualization  
(Debrief/Education with VDT® Certified  
Trainer)]; E --> F[Participants share key  
takeaways and how it will  
affect their caregiving roles]; F --> G[Active Experimentation  
(Implementing new knowledge)]; G --> H[Participants implement new caregiving  
strategies and behaviors, leading to new  
concrete experiences, continuing the cycle]; H --> A;
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The flowchart illustrates the VDT® Certified Trainer-led group process, which follows a cyclical model of experiential learning. The process begins with **Concrete Experience (Pre-intervention: The VDT®)**, where participants engage in the simulation. This leads to **Participant thinks about their experience**, which then moves to **Reflective Observation (Expresses thoughts and feelings on simulation)**. In this stage, **Participants share experience in VDT® Certified Trainer-led group. Certified Trainer shares dementia education and helps participants relate knowledge back to the simulation**. This is followed by **Abstract Conceptualization (Debrief/Education with VDT® Certified Trainer)**, where **Participants share key takeaways and how it will affect their caregiving roles**. The process then moves to **Active Experimentation (Implementing new knowledge)**, where **Participants implement new caregiving strategies and behaviors, leading to new concrete experiences, continuing the cycle**. The cycle then returns to the **Concrete Experience** stage.

- The VDT® provides a first-person experience of cognitive and sensory challenges of dementia
- Participants wear sensory-altering devices in a simulation room fashioned like a home
- Participants are asked to complete household tasks (e.g. setting a table, writing a grocery list, putting on clothing)
- Observer notes participant behaviors and task completion
- Following the simulation room, a group debriefing conducted by the VDT® Certified Trainer (PI) discusses how the experience simulates what PLWD might experience and shares caregiving strategies

- Quasi-experimental pre-post test design with three time points: pre-intervention (T1), immediately post-intervention (T2), and one month post-intervention (T3)
- Data collection (informed consent, demographics, Empathy & Understanding in Dementia Index [EUDI]) via REDCap
- Statistical analysis using SPSS 30

- Measurements of the EUDI at all three timepoints (T1, T2, T3)
 - Three EUDI constructs: *Empathic Understanding of the Impact of Dementia* (construct 1), *Understanding the Behavioral Impact of Dementia* (construct 2), *Provision for Person-Centered Care* (construct 3)
- Friedman's test (p), Wilcoxon rank sum test z score converted to correlation coefficient r for effect size across each EUDI construct

- Three item open-ended survey completed at T3
- Clarke & Braun's thematic analysis

- Nurses and DCW providing hands-on care to PLWD in non-acute care settings for at least 8 hours per week
- Exclusion: history of seizure or migraines related to strobe lights, mobility limitations, and severe visual and auditory challenges, previous participation in a dementia simulation program

- The majority were female (95.7%), white (67.4%), Non-Hispanic/Latino (82.6%)
- 37% held a high school diploma as the highest level of education
- Average age of 37.2 years (SD=15.8).
- The majority were nursing assistants (50%), and worked at senior living facilities (97.8%)



SCAN ME



Second Wind Dreams, senior living facilities,
study participants, student assistants

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Characteristic	<i>n</i>	%
Highest Level of Education		
High school/GED	17	37.0
Certificate	6	13.0
Diploma	3	6.5
Associate	6	13.0
Bachelor's	11	23.9
Graduate	3	6.5
Role		
RN	5	10.9
LPN	7	15.2
Nursing assistant	23	50.0
Other	11	23.9

Characteristic	<i>n</i>	%
Caregiving Location		
Home	7	15.2
Senior living	45	97.8
Other	1	2.2
Hours Worked Per Week		
8-16	12	26.1
17-24	6	13.0
25-32	5	10.9
33-40	9	19.6
>40	14	30.4
Caregiving Years		
<1	10	21.7
1-2	5	10.9
3-5	9	19.6
>5	22	47.8

- **Statistically significant ($p < .05$) increases in empathy across all three constructs from T1-T2, sustained in one-month follow-up (T2-T3)**
- Effect sizes decreased over time
 - Construct 1: large effect size from T1-T2, medium effect size from T1-T3
 - Construct 2: large effect size from T1-T2, medium effect size from T1-T3
 - Construct 3: Medium effect size from T1-T2 small effect size from T1-T3

Theme	Exemplar Statement
<i>Empathy</i>	"But from the moment I was set up for the tour I was scared, anxious, and frustrated. I experienced these feelings for 8 minutes. Our residents live years with them." "The simulation allowed me to understand the hinderances that come with dementia and had me understanding how behavior, emotion, and thinking is influenced by dementia" "I was able to put myself in their shoes which made me feel so much more receptive to providing care with much more understanding and empathy."
<i>Gaining Insight</i>	"I have been in geriatric care also working with multiple stages of dementia for 18 years, I have never experienced something like the virtual dementia tour simulation... This is not only helpful to caregivers, but just as much family or loved ones or anyone dealing with someone with dementia." "Unable to hear or see with so much noise caused frustration which I really now see how it can lead to frustration and even agitation."
<i>Care Strategies</i>	"I approach patient/residents with smile to help decrease their anxiety and fear. I give them more time to complete tasks." "The simulation made me more aware of how my approach and physical environment can be negative or positive triggers." "I use various communication outlets with different patients depending on what they respond well to (talking slowly, writing, etc.)"

- Dementia simulation can increase empathy in professional caregivers providing hands-on care to PLWD
- Participant statements exemplified both cognitive and affective responses to the VDT®
- Participants reported implementing new care strategies to support PLWD post-intervention
- The decrease in effect size over time suggests future research should explore findings in longer-term follow up
- Future studies may examine changes in professional caregiver stress and work satisfaction following participating in dementia simulation
- Policies and funding should support dementia simulation programs to benefit professional caregivers and PLWD

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